NOTICE

The CM9760-KBD/CM9760-KBR that has been shipped to you is configured for use with a CM9700-CC1 running software version 8.03. DIP switch 7 on the KBD/KBR is set to the ON position.

If you need to use the KBD/KBR with a CC1 running software version 7.80, set DIP switch 7 to the OFF position.

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C1550M-A (1/06)

INSTALLATION/OPERATION

CM9760-KBD/ CM9760-KBR

System 9700™ Intelligent Keyboard

C540M-C (10/05)

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Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the points where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases shall be placed on the apparatus.
16. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
17. A CCC-approved power cord must be used to power this equipment when used in China.

Regulatory Notices

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RADIO AND TELEVISION INTERFERENCE

This equipment has been tested and found to comply with the limits of a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

In order to maintain compliance with FCC regulations shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and television reception.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Before You Begin

Make sure the following parts are present before you install and operate your CM9760-KBD keyboard.

PARTS LIST

Qty	Description
1	CM9760-KBD keyboard
1	RJ-45 straight cable
1	RJ-45 reversed cable
1	Power supply (KBD-PS-1) with power cord*
1	Installation/Operation manual

*Customers in the US, UK, Australia, and Europe will receive one of the four power cords shown in Figure 1.

PACKAGE CONTENTS

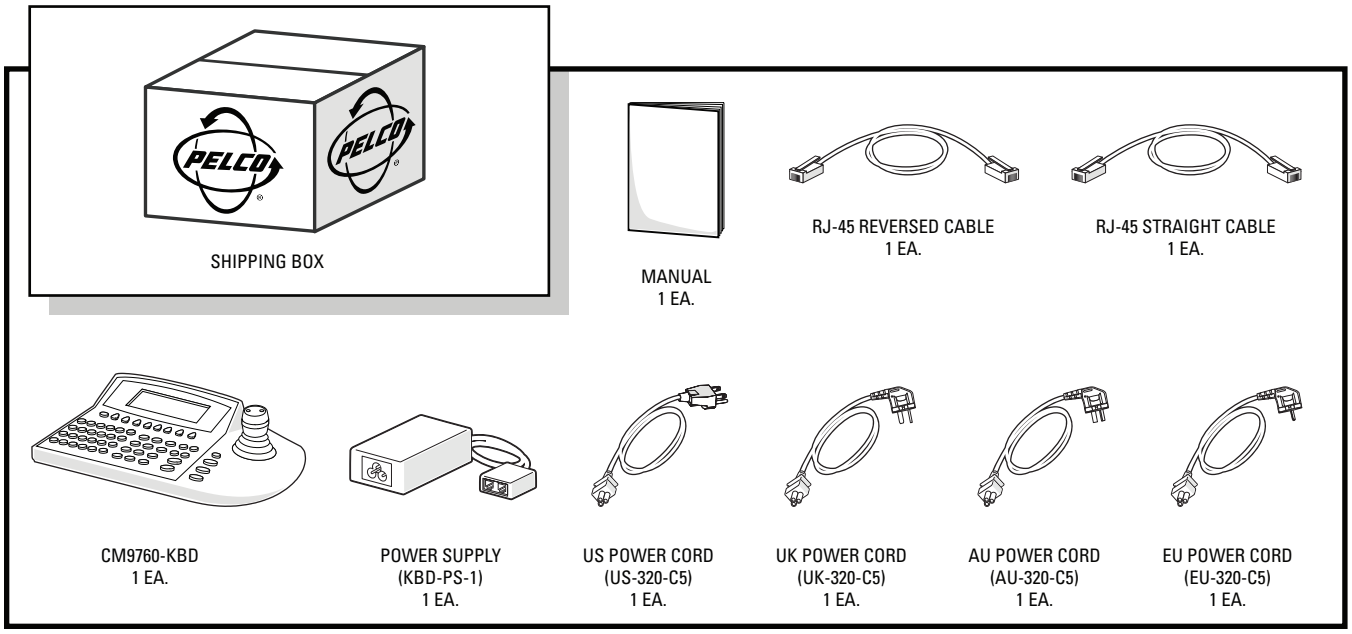

Figure 1. Package Contents

Description

The CM9760-KBD is a full-function desktop keyboard that allows you to control matrix systems, such as the CM9760, CM9770, and CM9780. The CM9760-KBR rack-mount model is also available and has the same features as the CM9760-KBD. It fits into a 19-inch, EIA-standard rack (4 RUs).

You can control GPI-activated devices, receivers, camera/monitoring switching, and multiplexer screen functions, and create single/dual patterns, zones, zone labels, presets, and preset recalls.

The keyboard has a variable-speed joystick with a zoom control knob for pan/tilt/zoom (PTZ) and dome control. It also has 24 programmable soft keys.

The keyboard has these additional features.

- Easy to use LCD display with icons
- Arm and disarm alarms
- Create and execute macros
- Download user-definable key configurations to and from other keyboards

NOTE: The CM9760-CC1 has been replaced with the CM9700-CC1 and the CM9760-MGR management software has been replaced with the CM9700-MGR management software.

MODELS

CM9760-KBD	Programmable keyboard; 120 VAC, 60 Hz
CM9760-KBR	Same as CM9760-KBD except rack mountable

TOP VIEW

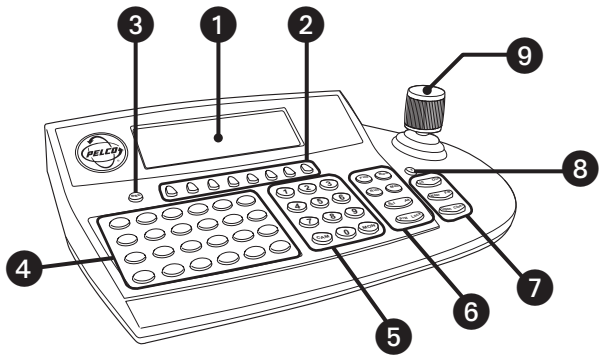

Figure 2. CM9760-KBD Top View

1. LCD Display
2. Multipurpose Function Keys
3. Escape Key
4. Control Keys (F1-F24)
5. Keypad (0-9, camera key, monitor key)
6. Function Control Keys
   Bwd key: backward step through available camera selections
   Fwd key: forward step through available camera selections
   Run key: run a paused macro
   Mac key: selection, creation, and execution of macros
   Rcl/Alt key:
   - Rcl: recall previous selections
   - Alt: cycle through inputs associated with selection

   Prst/Lock key:
   - Prst: recall preset
   - Lock: lock/unlock cameras to monitors
7. Lens Control Keys (zoom in or out, focus near or far, open or close iris)
8. Turbo Key
9. Joystick

BOTTOM VIEW

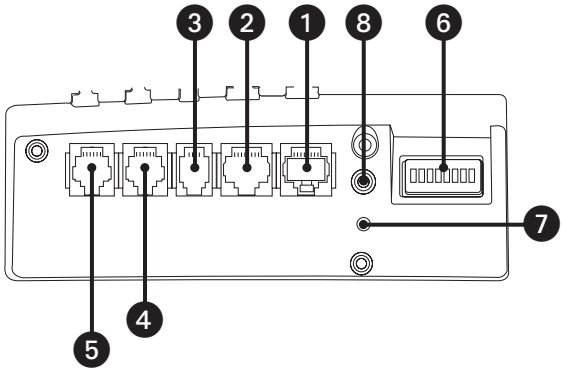

Figure 3. CM9760-KBD Bottom View

1. COM 1 Port
2. COM 2 Port
3. COM 3 Port
4. 1^2C Bus (not used)
5. Relay Port
6. DIP Switches
7. Reset Key (recessed)
8. Volume Knob

Installation

CONNECTIONS

1. Make sure all DIP switches are OFF.
2. Connect the RJ-45 straight cable from the COM 1 port on the keyboard to the "Keyboard" connector on the power supply.
3. Connect the RJ-45 reversed cable from the "System" connector on the power supply to a SERCOM port on the CC1.
4. Plug the power supply into a 120 VAC power source.
5. Turn the main power supply switch ON.

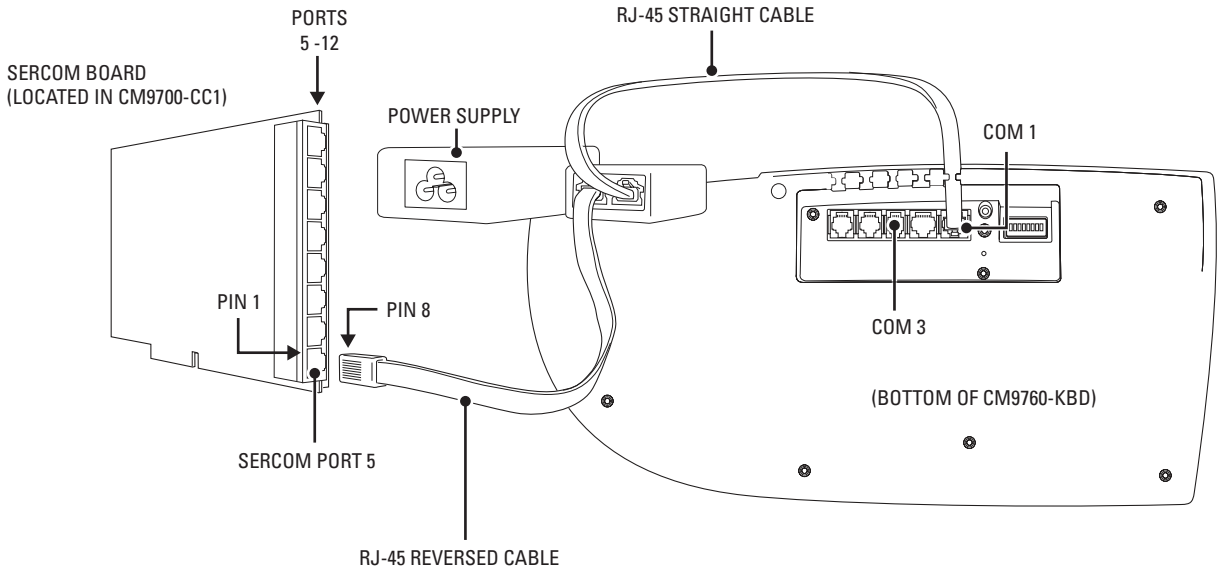

Figure 4. Connections

NOTE: You can also hook up an alternate connection (RS-232) from COM 3 on the keyboard to COM 1 or COM 2 on the back of the CM9700-CC1. The cable going from COM 1 to the power supply is still required for keyboard power. With an RS-232 connection, the effective operating distance between the keyboard and CC1 is about 50 feet.

ACTIVATING SETUP MODE

To configure the keyboard, you must activate Setup Mode.

1. Set DIP switch 2 ON. The following appears on the LCD display.

Figure 5. Enter Setup Pin

2. Enter 1234. This is the default setup PIN. The Setup Mode Menu appears with the version number.

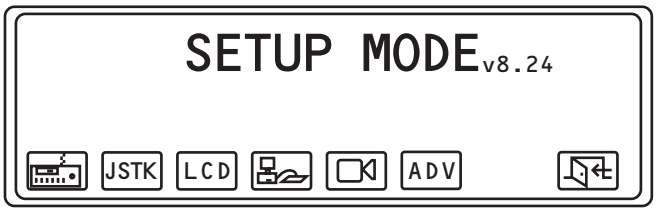

Figure 6. Setup Mode Menu

CHANGING THE SETUP PIN

To change the default setup PIN:

1. Select ADV. The Advance Setup 1 Menu appears on the LCD display.

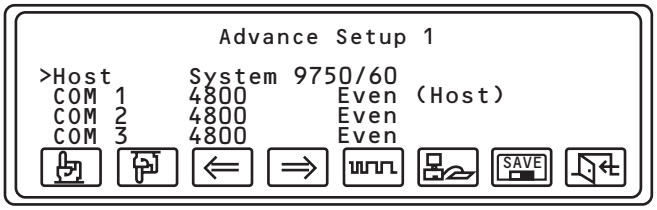

Figure 7. Advance Setup 1 Menu

2. Select or until you get to the Advance Setup 4 Menu.

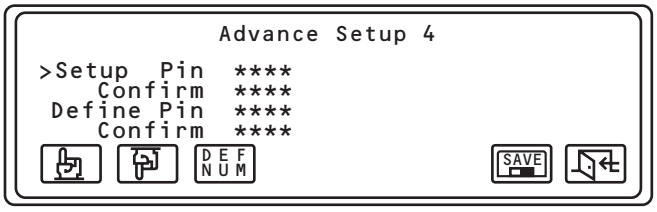

Figure 8. Advance Setup 4 Menu

3. Select DEF NUM, enter a four-digit PIN, and then select DEF NUM.

4. Select to go to Confirm.

5. Select DEF NUM, enter the PIN again, and then select DEF NUM. "OK" appears on the Confirm line.
6. Select SAVE.

You can also change the Define PIN from the same menu.

CHANGING THE DEFINE PIN

A PIN is required to use the features that are accessible via the Define Menu. The Define PIN is used in the operation mode to access extended keyboard functions and for initial access to ARM/DISARM alarm functions. The default Define PIN is 1234.

To change the default Define PIN:

1. Move the cursor to Define Pin.
2. Select DEF NUM, enter a four-digit PIN, and then select DEF NUM.
3. Move the cursor to Confirm.
4. Select DEF NUM, enter the PIN again, and then select DEF NUM. "OK" appears on the Confirm line.
5. Select SAVE and then ESC.

CALIBRATING THE JOYSTICK MANUALLY

Automatic joystick calibration is the factory default, but you can change the joystick calibration settings manually. You no longer have to verify the value for each joystick position.

1. Select JSTK from the Setup Mode Menu. The Joystick Setup Menu appears on the LCD display.

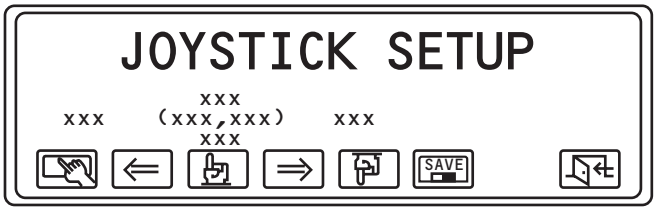

Figure 9. Joystick Setup Menu

2. With the joystick in the center, select ENT.
3. Move the joystick fully left, and select ⇐.
4. Move the joystick fully right, and select ⇒.
5. Move the joystick fully down, and select ⇓.
6. Move the joystick fully up, and select ⇑.
7. Select SAVE and then ESC.

CALIBRATING THE JOYSTICK AUTOMATICALLY

This is the factory default calibration mode for all CM9760-KBD keyboards. Follow these steps if you change the joystick calibration mode to manual and want to go back to automatic joystick calibration.

1. Select JSTK from the Setup Mode menu.
2. With the joystick in the center, select and then SAVE to activate automatic calibration mode.
3. Select .

The joystick calibrates automatically every 30 minutes with no additional user action required.

ADJUSTING THE DISPLAY BRIGHTNESS

1. Select LCD from the Setup Mode Menu. The LCD Brightness Setup Menu appears on the LCD display.

Figure 10. LCD Brightness Setup Menu

2. Select or to adjust the display brightness.
3. Select SAVE and then .

NOTE: The display brightness can also be adjusted by selecting LCD from the Define Menu.

DIRECT CAMERA CONTROL

Cameras can be connected directly to COM 1 and/or COM 2 located on the bottom of the CM9760-KBD. Up to 16 cameras can be connected to each port for a total of 32. Follow these steps and refer to Figure 11.

NOTE: Use cameras that have RS-422 Pelco P-type protocol. This includes most Legacy®, Intercept®, and System 9750/9760 ERD receivers.

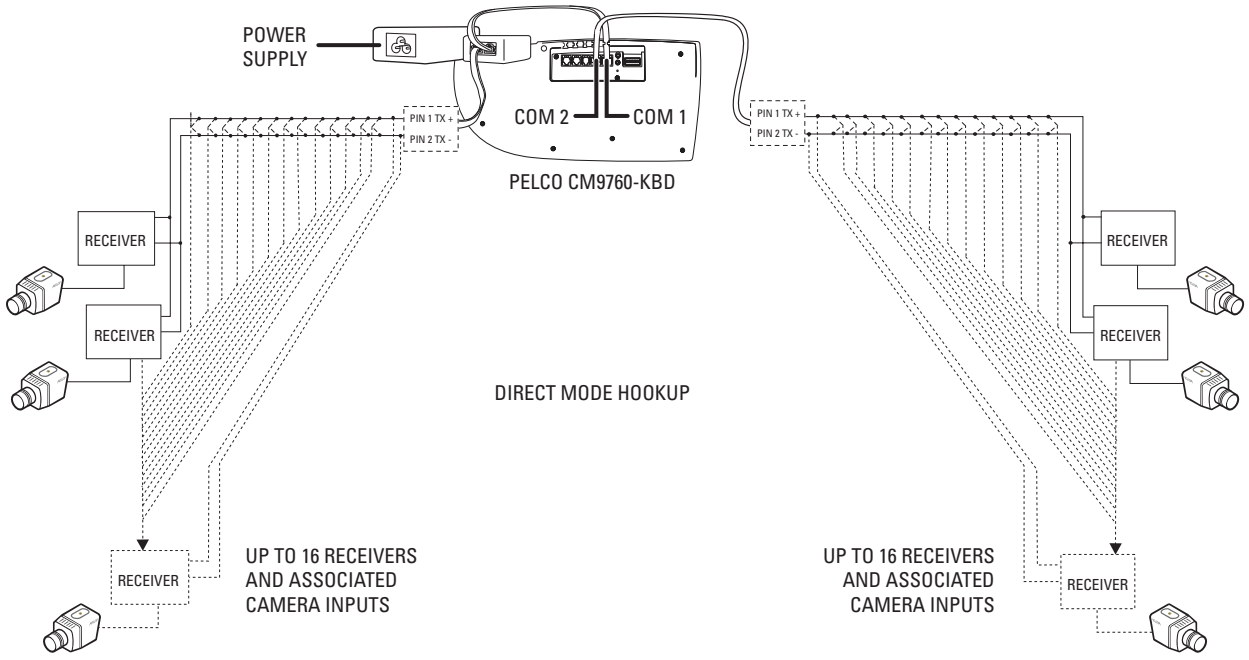

Figure 11. Direct Mode Connection

1. Select ADV from the Setup Mode Menu. The Advance Setup 1 Menu appears on the LCD display. The cursor is on the Host row.

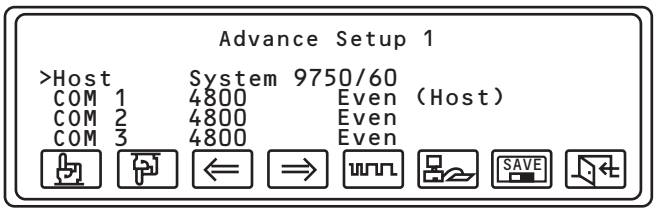

Figure 12. Advance Setup 1 Menu

2. Select ⇐ or ⇒ to choose Direct Cam Ctrl.

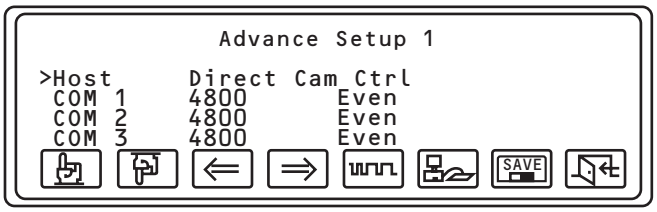

Figure 13. Direct Camera Control

3. Select [ ] to choose the COM port you are going to configure. The figure below shows the COM 1 port.

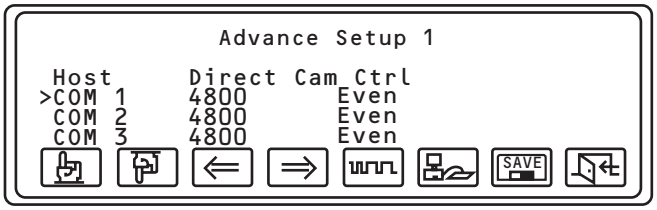

Figure 14. COM 1

4. Select [ ] or [ ] to choose the baud rate and [ ] to choose the parity. In the figure below, a 9600 baud rate and Odd parity has been chosen for COM 1.

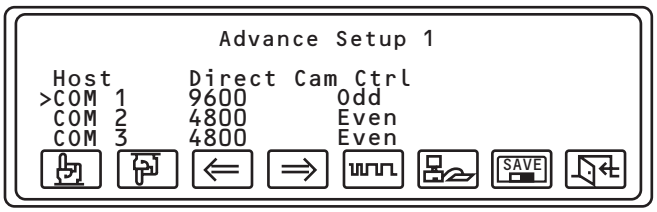

Figure 15. Baud and Parity

5. Select [SAVE] and then [ ] to return to the Setup Mode Menu.

6. Select [ ]. The Direct Camera Control Menu appears on the LCD display.

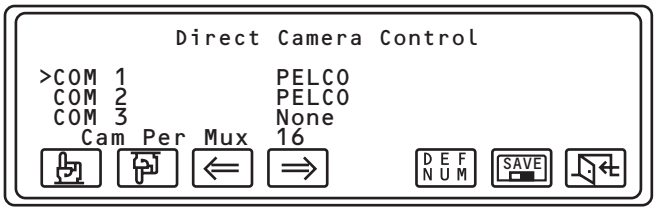

Figure 16. Direct Camera Control Menu

7. Select [ ] or [ ] to choose Pelco for COM 1.

8. Select [ ] to go to the Camera Assign Menu to assign all the physical ports with logical numbers and assign the status of any existing AUX's.

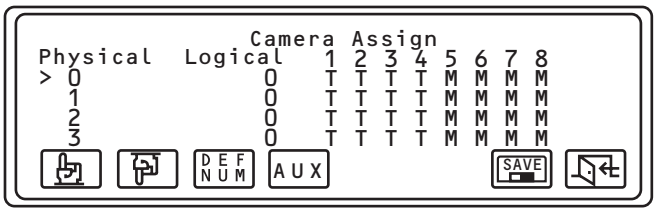

Figure 17. Camera Assign Menu

9. Select [DEF NUM] to assign camera logical numbers.

10. Enter a logical number for the physical port. In the figure below, 10 has been entered.

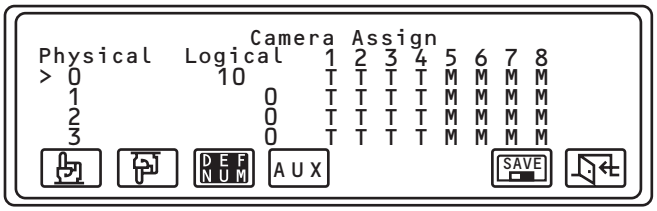

Figure 18. Logical Number Entered

11. Select DEF NUM. The number is placed into the selected row for logical numbers.

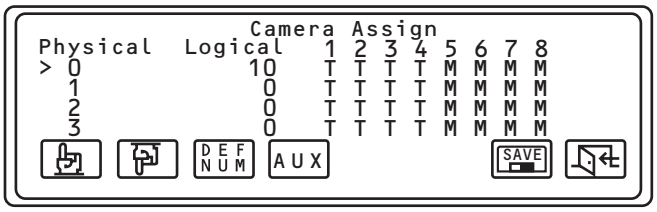

Figure 19. Logical Number Assigned

12. Select AUX to set up the relay AUX functions for T (toggle) or M (momentary). The following appears on the LCD display.

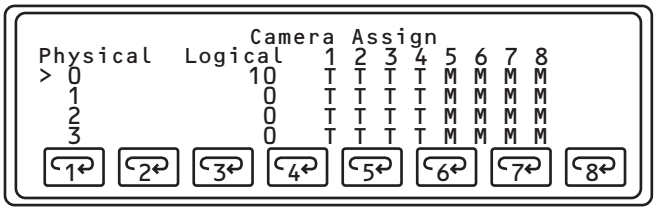

Figure 20. AUX Functions

NOTE: Each of the eight AUX icons controls settings for one relay (T or M).

13. Select an AUX icon, for example 1, to change the toggle setting between T and M.

14. Press esc and then select the next port icon to go to the next port you want to configure. The figure below shows Port 1.

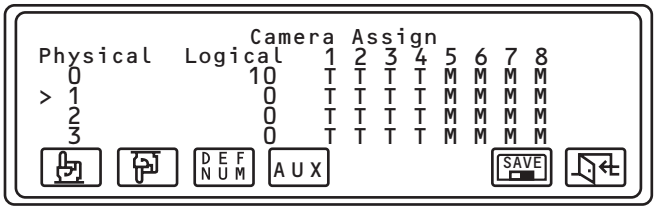

Figure 21. Port Configuration

15. When you are finished configuring the last port's AUX, press esc and then select SAVE.

NOTE: You will enter Direct Camera Control Mode when you exit Setup Mode. You will be able to operate cameras directly from the CM9760 keyboard.

DIRECT CAMERA CONTROL FOR NON-PELCO MUX

In the Direct Camera Control Menu, COM 3 has a default of NONE. You can select and configure the following MUX types: Montage, Robot, and Drax.

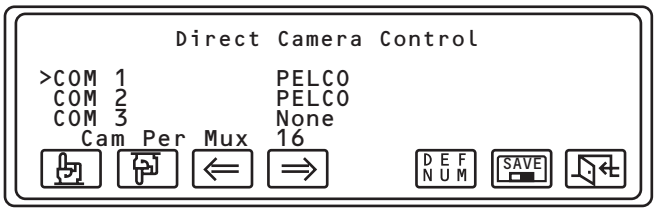

Figure 22. Direct Camera Control (Non-Pelco MUX)

1. Select [↓] to go down to COM 3.

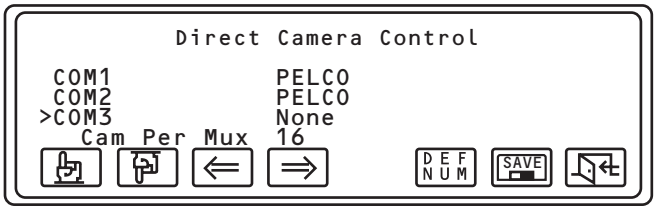

Figure 23. COM Port

2. Select [⇐] or [⇒] to select the MUX type.

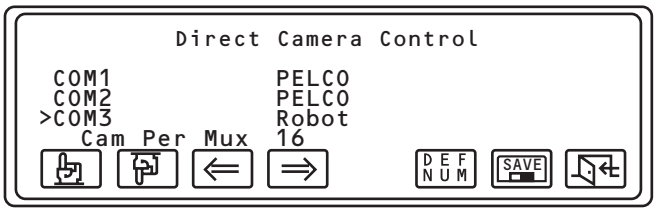

Figure 24. MUX Type

NOTE: Be careful when selecting and saving a MUX. You cannot change your selection without first recycling power on the keyboard.

3. Select [↓] to go down to the "Cam per MUX" line.

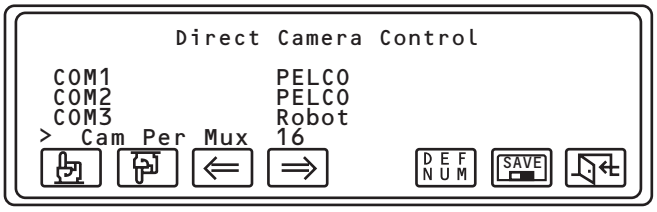

Figure 25. Cameras Per Multiplexer

4. Select [DEF NUM].
5. Enter a number for the number of cameras to be connected to the MUX. Figure 25 shows 16 cameras.
6. Select [DEF NUM] again.
7. Select [SAVE] and then [↵].

CONFIGURING THE RELAYS

Each CM9760-KBD keyboard has two relays that can be used with macros stored in the connected system, which will typically be the CM9700-CC1. Macros are used to automate sequences of events. For example, a basic macro can allow a user a view from one camera for five seconds and then switch to another camera for 10 seconds.

The relays in the CM9760-KBD can be switched to either toggle or momentary.

NOTE: When a relay is in toggle mode, a single key press will switch if either ON or OFF. In momentary mode, a relay will remain switched ON only while the appropriate key is held down.

To configure a relay:

1. Select [ADV] from the Setup Mode Menu.
2. Select [ ] to go to the Advance Setup 2 Menu.

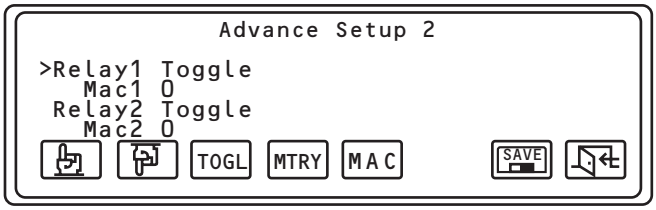

Figure 26. Advance Setup 2 Menu

3. Select [ ] or [ ] to go to Relay 1 or Relay 2.
4. Select [TOGL] or [MTRY].
5. Select [ ] to go to Mac 1 or Mac 2.
6. Select [MAC] and enter the macro number. Select [MAC].
7. Select [SAVE] and then [ ].

ADJUSTING THE TIME OUT PERIOD

Keyboard users can be timed out after periods of inactivity ranging from 1 to 254 minutes.

To specify a time out period:

1. Select ADV from the Setup Mode Menu.
2. Select or to go to the Advance Setup 3 Menu.

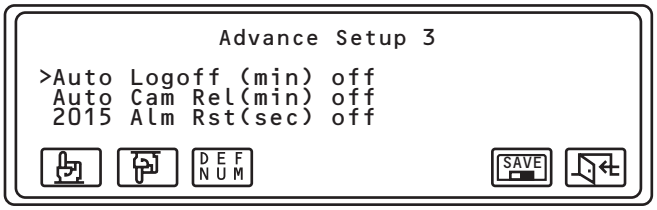

Figure 27. Advance Setup 3 Menu

3. Select DEF NUM and enter a duration between 2 minutes and 254 minutes.
4. Select DEF NUM.
5. Select SAVE and then .

NOTE: The automatic log-off function can be disabled by entering 0, 1, or 255.

SETTING THE CONTROL KEYS FUNCTIONS

The control keys (F1-F24) can be assigned various functions, such as the enter function.

1. Select from the Setup Mode Menu. The Key Define Menu appears on the LCD display.

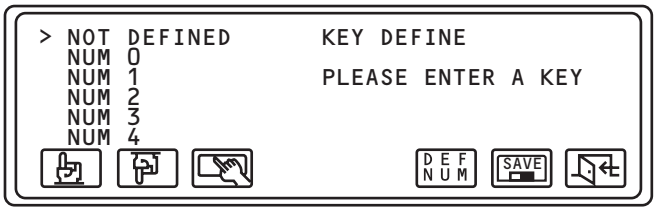

Figure 28. Key Define Menu

2. Press the control key to which you want to assign a function. If the key has already been defined, its assigned function appears on the LCD display. If it is not defined, "Def = NOT DEFINED" appears on the LCD display.

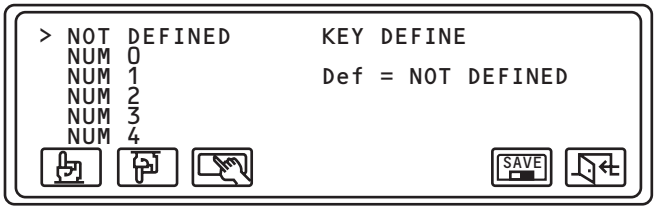

Figure 29. Key Not Defined

3. Select or to go to a desired function, and then select to choose that function.

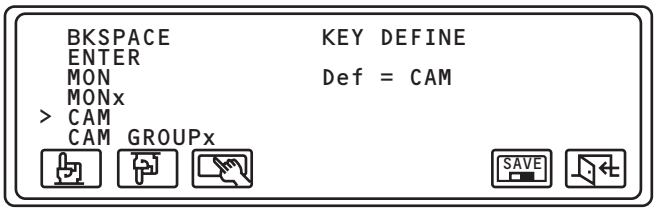

Figure 30. Key Functions

4. Select SAVE.
5. Select and then .

You will be prompted to enter a number for many of the functions. Select DEF NUM, enter the number, and then select DEF NUM.

DOWNLOADING KEYBOARD SETUPS

The CM9760-KBD keyboard setup information can be downloaded and uploaded between keyboards, avoiding the need to configure each keyboard individually in Setup Mode. Setup information that can be downloaded/uploaded includes control key functions, relay configurations, direct camera control parameters, and up to ten user-defined icons.

DOWNLOADING KEYBOARD TO KEYBOARD

To download/upload setups between keyboards, the keyboards can be connected using COM 1 and/or COM 2 or through COM 3. The COM ports are under the keyboard.

1. Select from the Setup Mode Menu. The Keyboard Setup Menu appears on the LCD display.

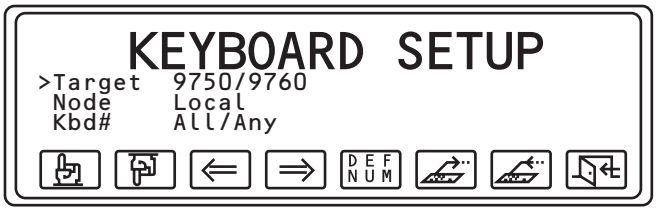

Figure 31. Keyboard Setup Menu

2. Select or to choose the COM port that is being used to download setup information. The example below shows KB-KB COM 1. The other options are KB-KB COM 2, KB-KB COM 3, and 9760MGR.

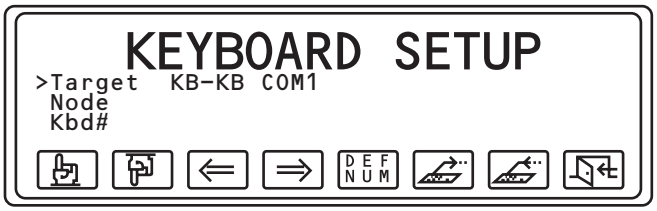

Figure 32. Target Keyboard

3. Select to receive setup information from a connected keyboard.
4. Select to send setup information to a connected keyboard.

The keyboard LCD indicates that it is going through the camera map settings. When it is finished, "End of Tx" appears on the LCD display.

DOWNLOADING THROUGH THE CM9700 SYSTEMS

Setups can be downloaded/uploaded using keyboards connected to CM9700 systems. You can upload the setup of a single keyboard to many other selected keyboards simultaneously.

You can even upload the setup of a single keyboard to all keyboards in a CCTV installation. A CCTV installation can include multiple CM9700 systems. Each system is referred to as a node. The nodes are designated numbers from 1-24.

To download/upload keyboard setups through the CM9700 system:

1. Select from the Setup Mode Menu. The Keyboard Setup Menu appears on the LCD display. The target should be 9750/9760.

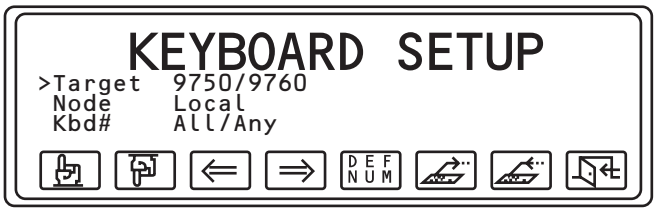

Figure 33. System Download/Upload

2. Select to go to Node and then select .
3. Enter a node number between 1-24, if necessary. Figure 34 shows Node 2.
4. Select .

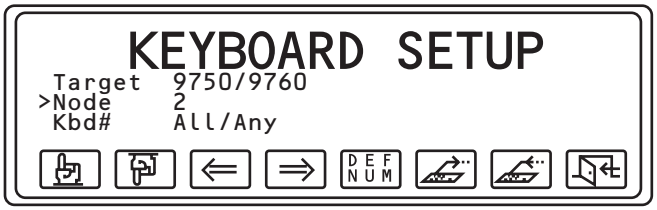

Figure 34. Node Selection

5. Select to go to Kbd# and then select .
6. Enter a keyboard number between 1-96, or enter 0 to select all keyboards attached to selected node(s).
7. Select .
8. Select to receive setup information from a connected keyboard.
9. Select to send setup information to a connected keyboard.

To upload a keyboard setup to all keyboards connected to a specific system in a multiple-node CCTV installation, you must know the appropriate node number. If uploading to a specific keyboard, you must know the keyboard number (1-96) and the node number.

UPLOADING TO THE MGR PROGRAM

Setup information from a keyboard can be uploaded to a MGR program that is on a PC connected to a CC1. The MGR program must be online to receive the setup information. This information can be changed within the Windows environment and then sent back to the keyboard.

To upload your keyboard setup:

1. Select from the Setup Mode Menu.
2. Select or to choose 9760MGR as the Target.
3. Select to send the keyboard setup information to the online MGR program.

The keyboard LCD indicates that it is going through the camera map settings. When it is finished, "End of Tx" appears on the LCD display. Refer to your MGR manual for information on editing your keyboard setup.

Operation

ACTIVATING OPERATION MODE

To use the keyboard, you must activate Operation Mode.

1. Select from the Setup Mode. The following message appears on the LCD display.

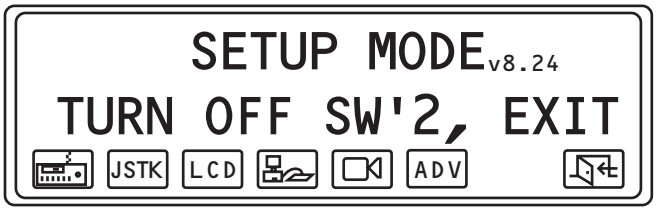

Figure 35. Setup Mode Exit Message

2. Set DIP Switch 2 OFF.

3. Select . The Log In Display appears on the LCD.

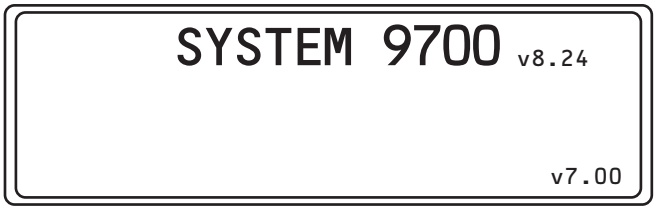

Figure 36. Log In Display

LOGGING IN

To log in, enter your four-digit PIN from the Log In Display. As soon as you enter a number, PIN appears on the LCD display and four asterisks indicate the numbers of your PIN. The default login PIN is 1234 and can be changed only by the person responsible for programming or creating the configuration files for the system.

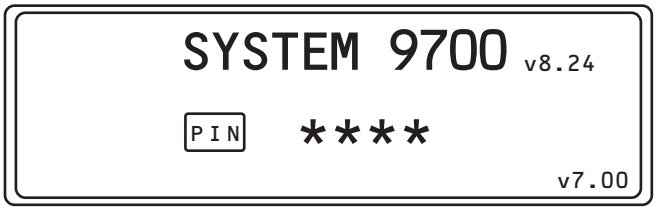

Figure 37. PIN Number

The following message appears on the LCD display when you enter a PIN successfully.

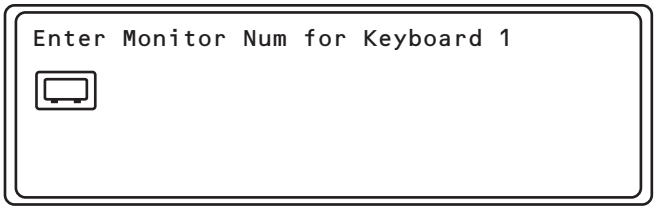

Figure 38. Monitor Number

SELECTING MONITORS

1. Enter the monitor number for the keyboard. The number you enter appears next to the monitor icon. For example, enter monitor 1. If you attempt to access a monitor that does not exist, "Monitor Denied" appears on the LCD display.

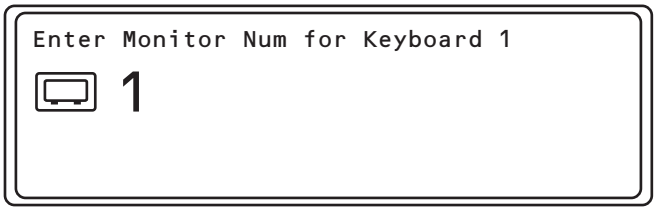

Figure 39. Monitor Number

2. Press MON. The Monitor Menu appears on the LCD display.

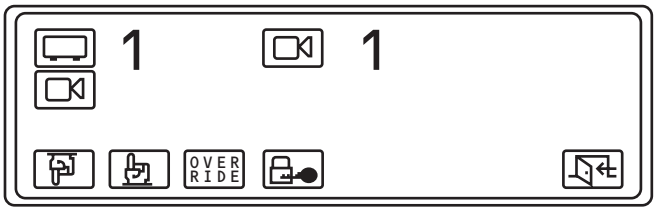

Figure 40. Monitor Menu

Figure 40 shows a 1 next to the monitor icon and a 1 next to the camera icon. That means that you will see video from camera 1 on monitor 1.

3. To go to monitor 2, enter 2 and press MON.

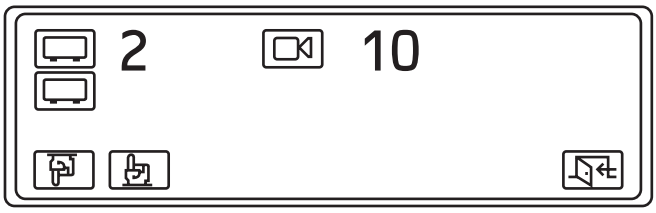

Figure 41. Monitor 2

Figure 41 shows a 2 next to the monitor icon on the first line and a 10 next to the camera icon. That means you will see video from camera 10 on monitor 2.

4. Select or to go through all of the available monitors.

5. Press esc or select to go to the Main Menu.

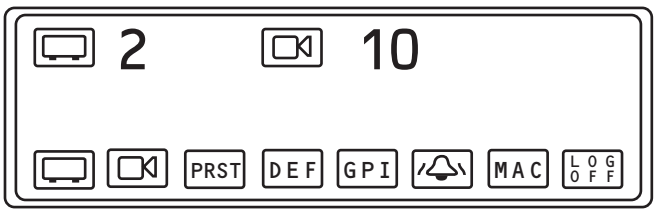

Figure 42. Main Menu

You can also select a monitor from the Main Menu by entering a monitor number and then selecting or pressing MON.

You can also select a monitor if you have assigned the Enter function to one of the control keys. Press MON, enter a monitor number, and then press the control key that has been assigned the Enter function.

SELECTING CAMERAS

1. Enter a camera number from the Main Menu. For example, enter camera 2. If you enter a camera number that does not exist, "Cam Not Present" appears on the LCD display.

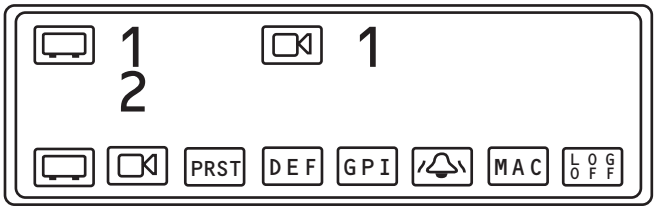

Figure 43. Main Menu Camera Selection

2. Select [camera] or press CAM. The Camera Menu appears on the LCD display.

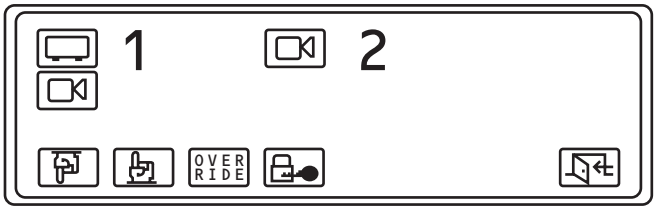

Figure 44. Camera Menu

3. Select [up] or [down] to go through the available cameras.

You can also select a camera if you have assigned the Enter function to one of the control keys. Press CAM, enter a camera number, and then press the control key that has been assigned the Enter function.

NOTE: When going through the available cameras, you may see a camera input that has been defined as a multiplexer,VCR, or DVR. The control icons for those devices will appear on the LCD display. You must press Fwd or Bwd to get back to [down] or [up]. Refer to the CM9700-MGR Software Guide for information on how to add those devices.

LOCKING CAMERAS OR INPUT DEVICES

To lock a camera to a monitor (or other output device):

1. Select the appropriate camera or input.
2. Select .
3. Select to unlock the camera.

The example below shows that camera 3 is locked to monitor 1. If you try to access another camera, "Monitor Locked" appears on the LCD display.

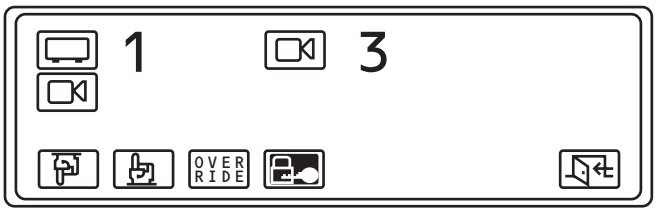

Figure 45. Camera Lock

OVERRIDING CAMERA CONTROL

If User A controls a camera and User B tries to access the same camera, "Busy Opr X" appears on the LCD display. If User B has equal or greater priority access, he can take control of the camera from User A by doing the following:

1. Select and hold OVER RIDE from the Camera Menu.
2. Move the joystick or press a key on the camera control section of the keyboard.

OVERRIDING CAMERA LOCKS

If User A locks a camera to a monitor, User B can override User A if User B has greater priority access by selecting OVER RIDE and at the same time.

If User B does not have greater priority access, "Override Denied" appears on the LCD display.

NOTE: When access is attempted by User B, "CAM LOCK OPERATOR #" appears on the LCD display.

GROUP INPUT SELECTION

The CM9760-KBD has 24 control keys that can be used for group input selections. For example, in a casino application, the control keys can be assigned the following group selections:

- Black Jack
- Roulette
- Craps
- Keno
- Count Room
- Baccarat

Upon selection of any of the above to a single monitor, the keyboard defaults to the lowest logical input number within the selected group.

The control keys can also be used to interface the user (either in groups or individually) with the following:

- DVR – to provide remote control of DVR functions
- VCR – to provide remote control of VCR functions
- Multiplexer – to provide remote control of multichannel displays
- Frame stores – to provide remote control of freeze and loop functions

Upon selection of a DVR or VCR, the function keys are assigned appropriate control functions. The control keys can be allocated specific area selections.

SELECTING GROUP CAMERAS

1. Enter the group number.
2. Press the appropriate control key. For example, roulette.
3. Press

to toggle to other associated cameras.

Control of associated functions is now possible using the function keys.

NOTE: The

brings up the Main Menu.

OPERATING PTZ CAMERAS

The controls for PTZ cameras are located on the right side of the keyboard. If a PTZ camera is selected, "PTZ" appears on the top right corner of the LCD display.

The proportional joystick allows variable speed control. It gives you full control over the pan and tilt movements, from minimum to maximum speed. Speed is proportional to the amount the joystick is moved away from the center location.

Press

while moving the joystick to enable high speed operation.

The joystick provides directional control only when a fixed speed PTZ camera is installed.

The various functions of a PTZ camera can be controlled as follows:

- Press

to zoom in or out.
- Press

to focus near or far.
- Press

to open or close the iris.

It is possible to operate the joystick simultaneously with a lens function. The iris open and close key functions only with the appropriate lens fitted.

Advanced Operation

PRESETS

A preset camera position is a set of parameters that define pan, tilt, zoom, and focus adjustments. There are several ways you can recall a preset camera position:

- Manually using the keyboard
- Automatically as the result of an alarm condition
- From a macro command

NOTE: Presets are possible only when receivers or pan/tilt units have preset capability.

CREATING PRESETS

There are 64 available presets. The following steps explain how to create a preset.

1. Select DEF from the Main Menu. The Define PIN Menu appears on the LCD display. Camera 22 in Figure 46 is a PTZ camera.

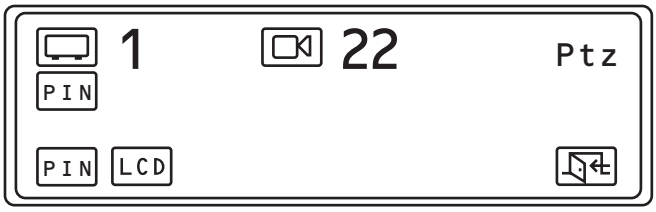

Figure 46. Define PIN Menu

2. Enter your four-digit Define PIN. The Define Menu appears on the LCD display.

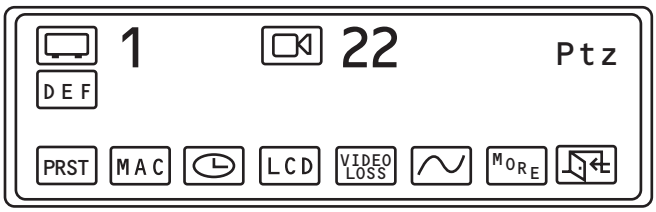

Figure 47. Define Menu

NOTE: You can also change the LCD brightness from this menu.

3. Use the joystick and camera control keys to set up the camera preset required.

4. Select PRST. The Preset Menu appears on the LCD display.

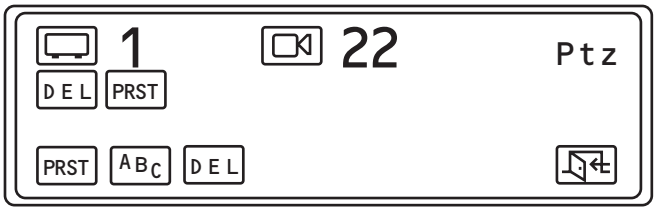

Figure 48. Preset Menu

5. Enter an available preset number between 1-32 and 35-66. Numbers 33 and 34 are reserved for other functions.

6. Select PRST.

7. Press esc to go back to the Main Menu.

RECALLING PRESETS

Follow these steps to recall a preset.

1. Enter the preset number.

2. Select PRST or press Prst Lock.

DELETING PRESETS

Follow these steps to delete a preset.

1. Select DEF from the Main Menu.

2. Select PRST from the Define Menu.

3. Enter the number of the preset you want to delete and select DEL.

CREATING A PRESET LABEL

1. Select ABC from the Preset Menu. The Preset Label Menu appears on the LCD display.

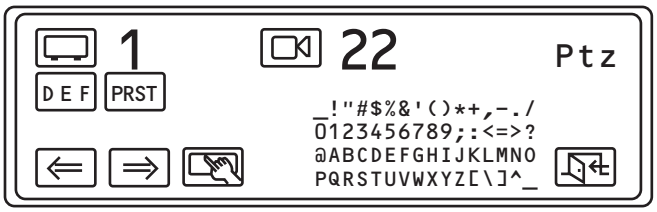

Figure 49. Preset Label Menu

2. Move the joystick to a character and then select . You can enter a maximum of 20 characters.

3. Select ⇐ or ⇒ if you want to move to a specific character and change it.

4. Select . The label appears on the LCD display.

ASSIGNING A PRESET LABEL TO A PRESET LOCATION

1. Use the joystick to move the camera to the desired preset position.

2. Enter your preset number and then select PRST. The label appears on the screen of the currently enabled monitor for that defined preset position.

3. Press esc to exit.

RECALLING DEFINED PRESETS

1. From the Main Menu, enter the number of a defined preset and select PRST. The camera moves to the preset position and the label appears on the monitor.
2. Repeat step 1 to recall other presets.

PATTERNS

A pattern is a viewable camera path with a definite beginning and end. For example, you can set the camera to move repeatedly between two cars in a parking garage. You must create a pattern before the time-out clock expires.

CREATING A PATTERN

1. Select DEF from the Main Menu. The Define Menu appears on the LCD display.

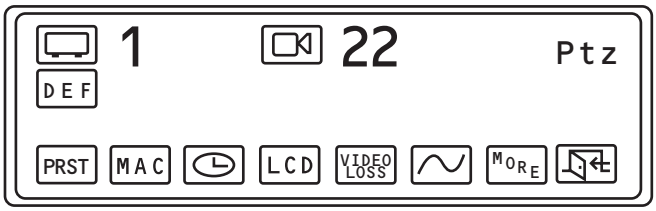

Figure 50. Define Menu

2. Select . The icon darkens.
3. Move the joystick to Point A and then select .
4. Move the joystick to Point B and then select .

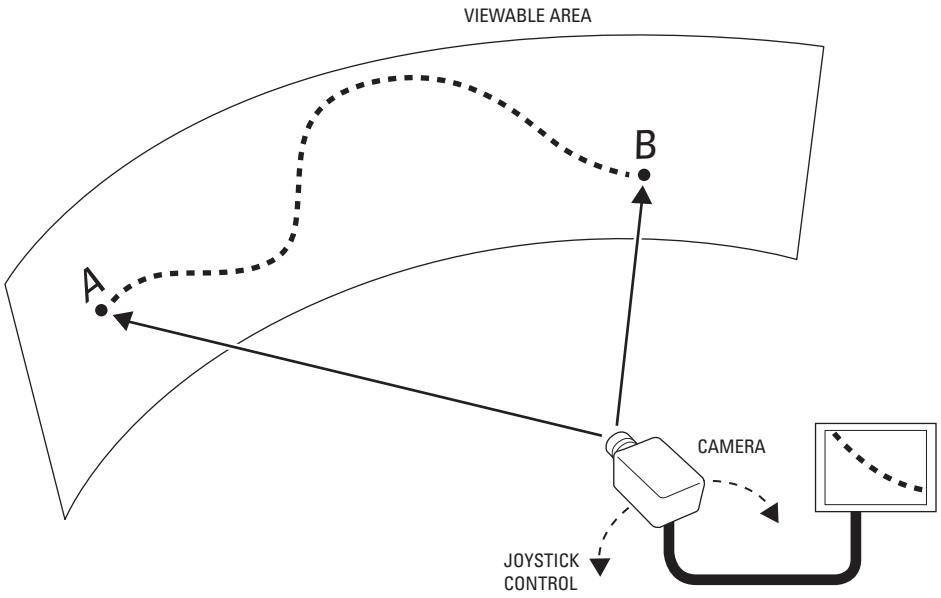

Figure 51. Pattern Definition

NOTE: Pattern creation is the same regardless of which camera you use. The only difference is the time-out period. With a Spectra, you can create two 30-second patterns within the 60-second time-out period.

RECALLING A PATTERN

1. Select PRST from the Main Menu. The Preset Menu appears on the LCD display.

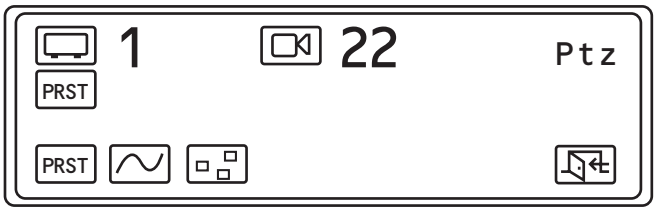

Figure 52. Preset Menu

2. Select .

NOTE: If you create two patterns within a time-out period, enter 1 and then select to run the first pattern. After you stop the first pattern, enter 2 and then select to run the second pattern.

ZONES

A zone is a user-defined space to which a label is attached and a camera is associated. The camera used at the time the zone boundaries are defined is associated with the zone. The zone label appears on the selected monitor after zone definition if you move the camera within the defined zone. You can define and associate up to eight zones with the same camera. A priority level (1-8, with 8 being the highest) is assigned to each zone.

CREATING A ZONE

1. Move the joystick to the point where you want zone definition to begin. Always move the joystick so that camera movement is from the left to the right.

2. Select DEF from the Main Menu. The Define Menu appears on the LCD display.

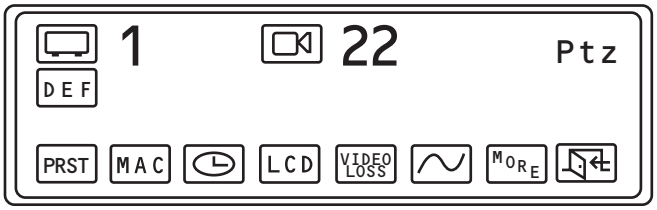

Figure 53. Define Menu

3. Select MORE. The Define Zone Menu appears on the LCD display.

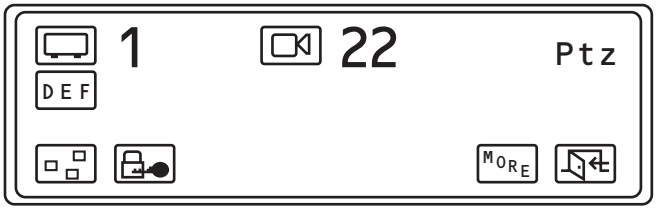

Figure 54. Define Zone Menu

4. Select . The Zone Label Menu appears on the LCD display.

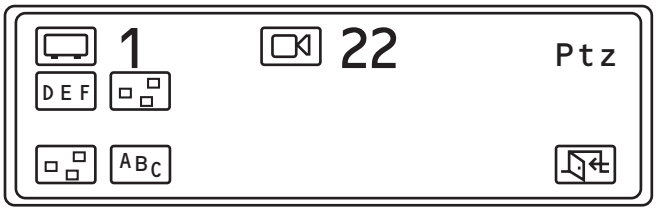

Figure 55. Zone Label Menu

5. Select . The Character Menu appears on the LCD display.

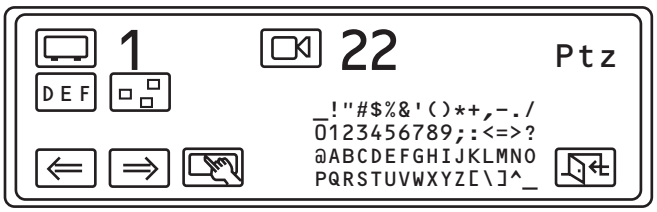

Figure 56. Character Menu

6. Move the joystick to a character and then select . You can enter a maximum of 20 characters.
7. Select or if you want to move to a specific character and change it.
8. Select . The label appears on the Zone Label Menu.
9. Select . "Zone Number?" appears on the LCD display.
10. Enter a zone number (1-8) to assign a priority level to the zone.
11. Select again. The icon darkens signaling the start of zone creation.
12. Move the joystick to the point where you want zone definition to end. Remember to move the joystick so that the camera pans only from the left to the right.
13. Select . Zone definition is complete.
14. Press esc to go to the Main Menu.

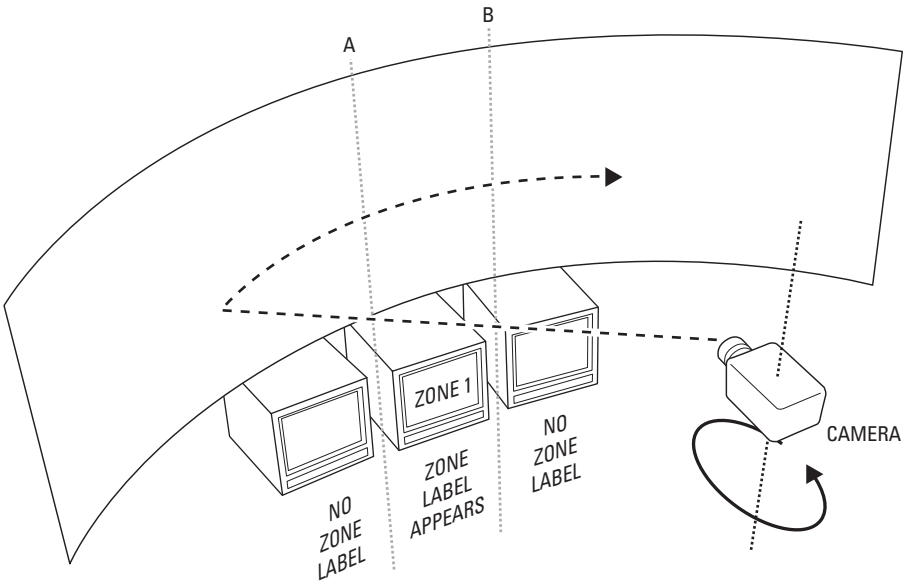

Figure 57. Basic Zone Creation

When you move the camera through the zone area, the label appears on the selected monitor. Refer to Figure 57.

PARTIAL ZONE OVERLAP

Partial zone overlap occurs when the end of one zone overlaps with the beginning of another zone. The zone with the highest priority level appears at all times. Refer to Figure 58.

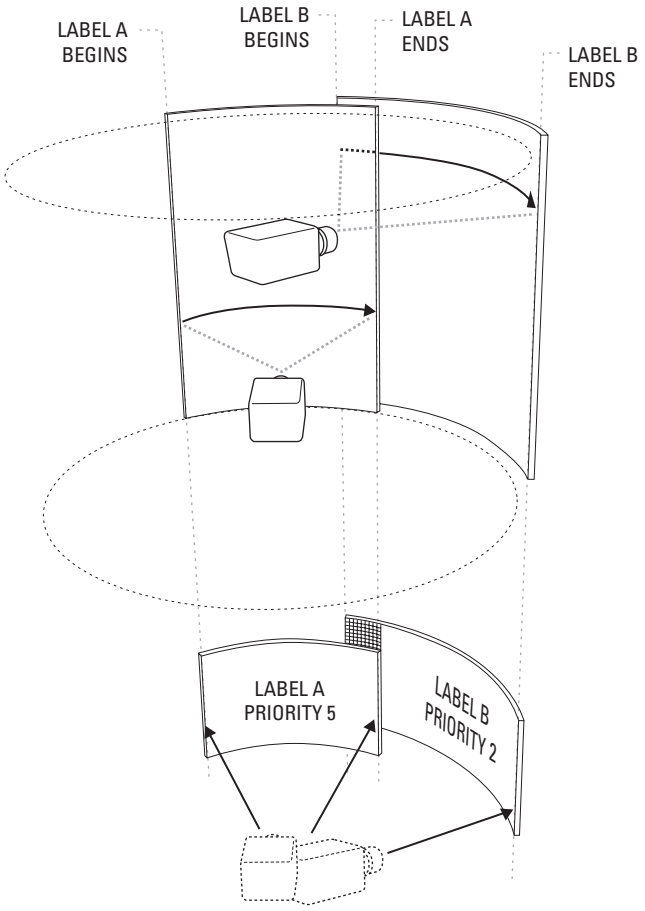

Figure 58. Partial Zone Overlap

EMBEDDED ZONES

An embedded zone is a zone that is between two other zones. In Figure 59, Zone C is embedded between Zone A and Zone B.

An embedded zone is not seen unless its priority level is higher than the priority level of the other zones. Since Zone C has a priority level of 6, portions of Zone A and Zone B are not seen.

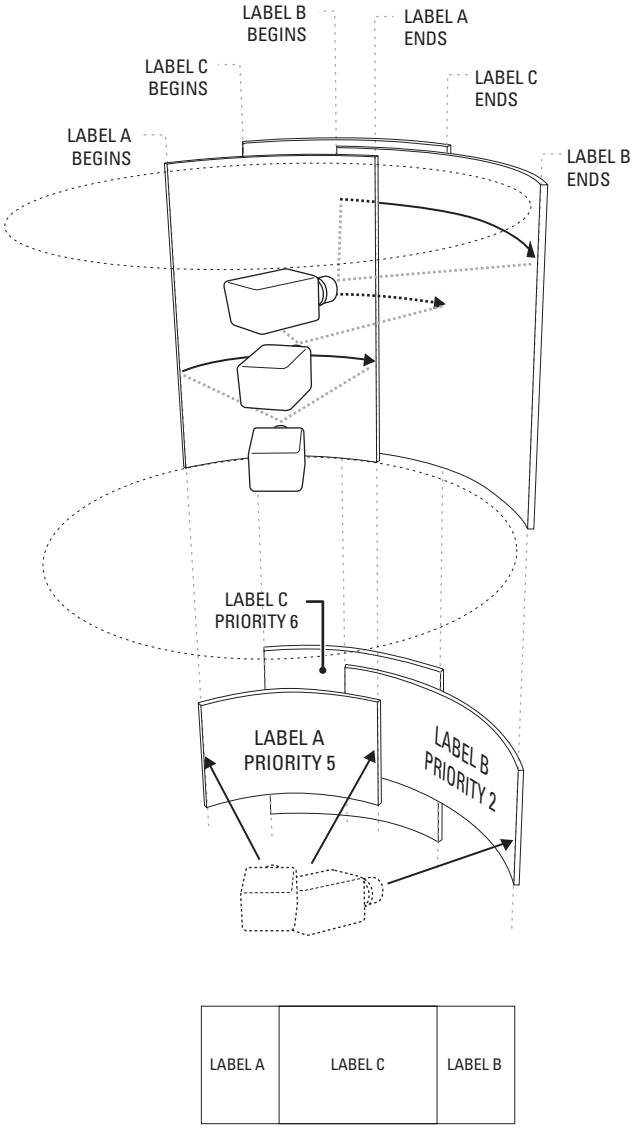

Figure 59. Embedded Zones

TURNING ZONES ON AND OFF

Follow these steps to turn zones on and off.

1. Select PRST from the Main Menu. The Preset Menu appears on the LCD display.
2. Select . "ZONES OFF" or "ZONES ON" appears.
3. Select again to either turn the zone off or on.

ERASING ZONES

To erase a zone, create a zone with no label (null zone) for each zone. The zone with no label overwrites the previous zone.

DVR AND VCR CONTROL

When a camera input is called up and DVR appears on the LCD display, a CM9700MDD-EVS matrix digital decoder is connected to the system. A user can view and control video on both the Endura™ and matrix systems. The DVR Control Menu appears on the LCD display.

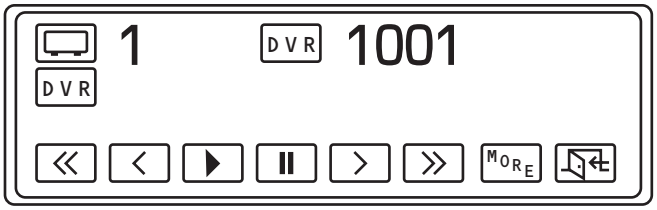

Figure 60. DVR Control Menu

Refer to the CM9700MDD-EVS Installation/Operation manual for information on how to use the DVR controls.

When a camera input is called up and VCR appears on the LCD display, a VCR is connected to the system. The VCR Control Menu appears on the LCD display.

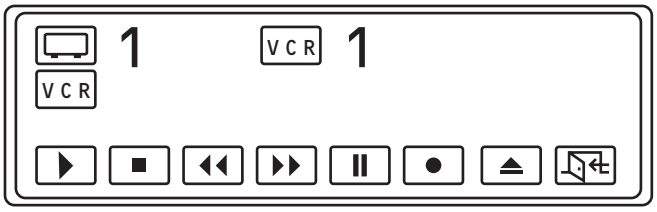

Figure 61. VCR Control Menu

VCRs have to be modified appropriately. For example, you may have to add hardware that provides alarm signal feedback. The VCRs must also interface with the CM9760-VCRC or CM9760-VCRC-P for the VCR control functions to appear on the keyboard's LCD. Finally, the VCR video outputs are connected as inputs to the matrix system.

Refer to the CM9760-VCRC and CM9760-VCRC-P Installation/Operation manuals for information on how to use the VCR controls.

GPI CONTROL

A GPI can control up to eight relays. Relays are controlled from the auxiliary icons in the GPI Menu. GPI control is normally used for controlling peripheral devices connected to CM9760-REL units or for VCR control. Each relay unit has eight GPIs. The first relay unit has a GPI range of 1-8. Refer to Table A.

Table A. GPI Control

GPI	**RELAY CONTACTS**							
1	1	2	3	4	5	6	7	8
2	9	10	11	12	13	14	15	16
3	17	18	19	20	21	22	23	24
4	25	26	27	28	29	30	31	32
5	33	34	35	36	37	38	39	40
6	41	42	43	44	45	46	47	48
7	49	50	51	52	53	54	55	56
8	57	58	59	60	61	62	63	64
ASSOCIATED AUX	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**

To activate relay contact 4, for example, follow these steps:

1. Enter 1 from the Main Menu. GPI 1 is associated with relay contact 4. Refer to Table A.
2. Select GPI. The GPI Menu appears on the LCD display.

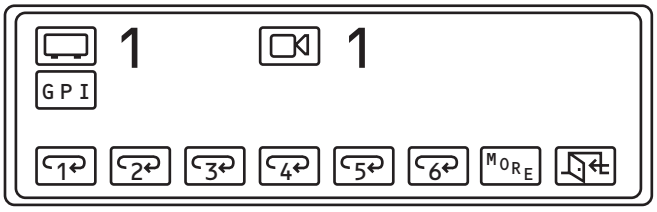

Figure 62. GPI Menu

3. Select 4.

MUX CONTROL

You can also control multiplexers with the CM9760-KBD keyboard. You can connect multiplexers to any input and configure the MUX for operation within the CM9700 system using the CM9700-MGR. Refer to the CM9700-MGR Software Guide.

To control a multiplexer:

1. Enter a MUX input number from the Main Menu.
2. Press [ ]. Each MUX input is associated with a camera input. Figure 63 shows MUX 1 being controlled.

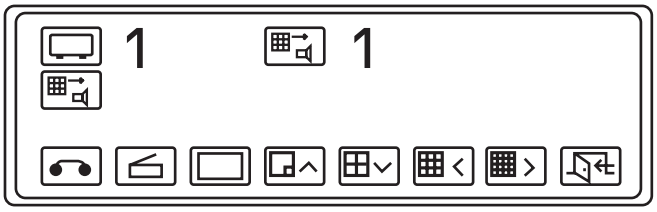

Figure 63. MUX Control Menu

3. Select an icon. The icon functions are described in Table B.

Table B. MUX Control Icons

ICON	FUNCTION
VCR	Select this icon to bring up the MUX VCR control menu for operating the VCR. The menu appears only if a VCR for camera recording is connected to the MUX and configured properly in the software.
	Select this icon to toggle the main monitor display between live inputs and playback from the VCR.
	Enter a camera number and select this icon. You can go through all 16 screens. Selecting this icon once enables 2X zoom and selecting it twice enables 4X zoom.
	Select this icon to display a picture in picture insert on the main monitor display. You can cycle through all 16 screens in the picture insert by entering a camera number and selecting [ ].
	Select this icon to bring up 4 of the available 16 screens. You can cycle through all 16 screens, four at a time, by repeatedly selecting the icon.
	Select this icon to bring up 9 of the available 16 screens.
	Select this icon to view all 16 available screens at the same time on the main monitor.

MACROS

A macro is a sequence of commands or steps. When you run a macro, the steps programmed into that macro are performed. Macros can be run manually or automatically. Automatic operation can be the result of alarms or the reaching of specific times and dates.

A macro will not run if it calls for the use of a camera or monitor which is already controlled by a user via a keyboard. To release control, go to a non-PTZ camera or press MON or CAM.

LOADING MACROS

To load a macro:

1. Go to the Main Menu and then select MAC. The Macro Menu appears on the LCD display.

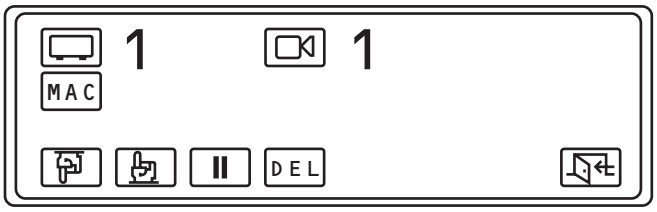

Figure 64. Macro Menu

2. Enter the macro number and then press Mac.
3. Select ↑ or ↓ to display all running macros.

When a macro completes all its steps, it stops and will only run again if restarted. If the macro is continuous, it will run until cleared or stopped. If a valid macro number is entered, "Macro n" appears and the macro runs. If an invalid macro number is entered, "Macro not present" appears. If the user has insufficient access rights, "Access denied" appears.

PAUSING A MACRO

To pause a macro:

1. Select Mac from the Main Menu to display the running macro number.
2. Select ↓ or ↑ to go through the macros that have been loaded.
3. Select II to pause the macro.
4. Select ↵.

NOTE: To restart a macro, select II.

DELETING A MACRO

To delete a macro:

1. From the Main Menu, enter the number of the macro you want to delete and then select MAC.
2. Select DEL to delete the macro.

CREATING A TEMPORARY MACRO

The create a temporary macro:

1. Select DEF from the Main Menu. The Define Menu appears on the LCD display.

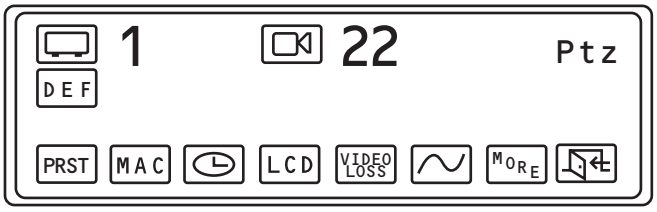

Figure 65. Define Menu

2. Enter a macro number and select MAC. The number appears next to MAC and a 1/1 appears above the Exit icon. This means you are in Step 1 of the temporary macro, sub-step 1.

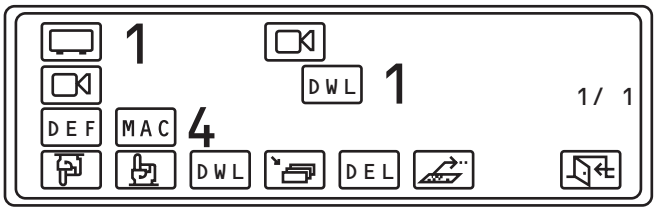

Figure 66. Macro Define Menu

NOTE: "Macro Defined" appears if the macro is already used.

3. Enter the number of the camera you want to be first in the sequence and then press CAM. The 1 / 1 changes to 1 / 2 to indicate sub-step 2.

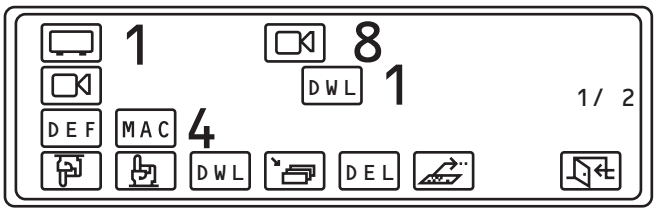

Figure 67. Macro Define Menu 2

4. Enter a dwell time (in seconds) and then select DWL. The number appears next to DWL.

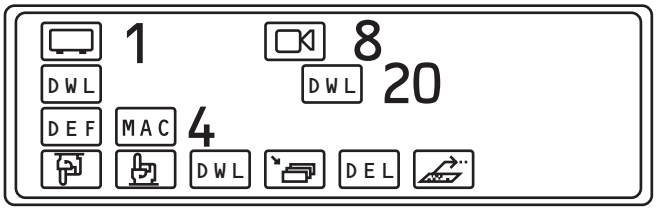

Figure 68. Macro Define Menu 3

5. Select . 1 / 2 changes to 2 / 2 to indicate movement to Step 2 of the temporary macro.

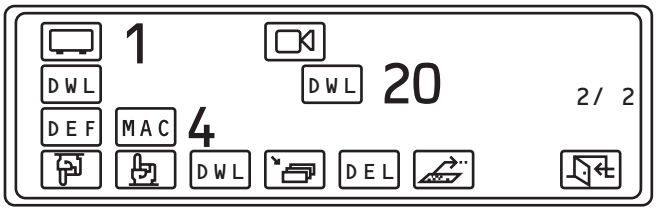

Figure 69. Temporary Macro Step 2

6. Repeat Steps 3-5 until you have configured the last camera you want in the sequence.
7. Select or to go through the steps of the sequence or select to insert a new step between two existing steps.
8. Select . The temporary macro starts until you pause it or delete it. Once uploaded you cannot recall the macro to edit it.

NOTE: The macro will be deleted if you recycle power on the keyboard or reset the CC1.

SETTING THE TIME AND DATE

You can change the date and time from the CM9760-KBD.

⚠ **CAUTION:** Changing the time/date on any CM9760-KBD will change the time for the entire system.

1. Select DEF from the Main Menu.
2. Select . The following appears on the LCD display.

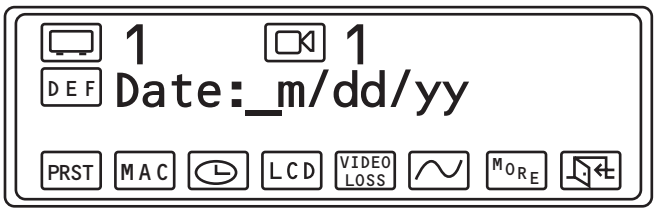

Figure 70. Time and Date Display

3. Enter the month, day, and year (xx/xx/xx).
4. Select . The following appears on the LCD display.

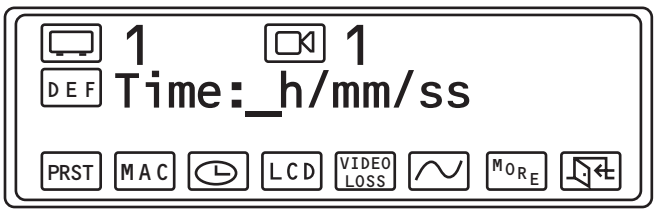

Figure 71. Hours and Minutes Display

5. Enter the hour, minutes, and seconds (xx/xx/xx) in the 24-hour format. For example, enter 8:00 p.m. as 20/00/00.
6. Select and then . The time and date will be updated on all equipment in the system.

VIDEO LOSS

The video loss function allows you to disable a camera that has malfunctioned.

1. Select DEF from the Main Menu.
2. Select VIDEO LOSS. The Video Loss Menu appears on the LCD display.

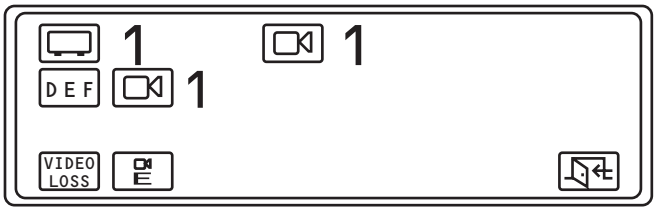

Figure 72. Video Loss Menu

3. Enter the camera number and select VIDEO LOSS.
4. Select to disable the camera.

NOTE: To enable the camera, select . means that the camera is disabled.

ALARMS

Alarms can be armed or disarmed from the CM9760-KBD. You must arm an alarm if you want to be notified that it has triggered. Alarms have to be rearmed if the keyboard is turned off. Macros are normally used to arm alarms.

ARMING ALARMS

A list of the logical alarm numbers should be available from your manager or security supervisor. To arm an alarm:

1. From the Main Menu, enter the logical number of the required alarm and select . The Alarm Menu appears on the LCD display. Figure 73 shows alarm number 1.

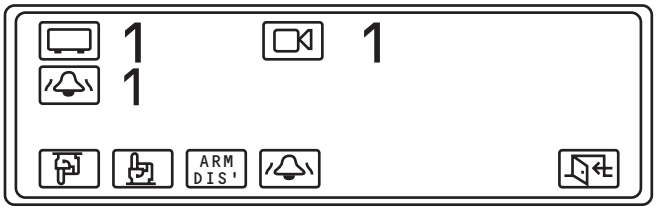

Figure 73. Alarm Menu

NOTE: "Alarm denied" appears if access to the alarm has been denied to the user and "Alarm not present" appears if the alarm has not been programmed into the system.

2. Select ARM DIS'. The icon darkens meaning that the alarm is armed. You will be notified if it is triggered.

DISARMING ALARMS

To disarm an alarm:

1. From the Main Menu, enter the logical number of the required alarm and select .
2. Select ARM DIS. The icon lightens meaning that the alarm is disarmed.

NOTE: While in the Alarm Menu, you can use or to go through all of the alarms. This is the easiest way to find out the status (armed or disarmed) of each alarm.

RESETTING ALARMS

When an alarm is triggered, you will see [alarm] flashing plus an alarm number on the LCD display. The alarm volume can be raised or lowered by using the volume control on the bottom of the keyboard.

To reset a triggered alarm:

1. Select from the Main Menu. The triggered alarm appears on line 3 on the LCD display. Refer to Figure 74.

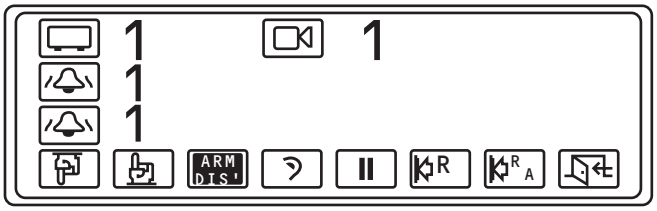

Figure 74. Triggered Alarm Menu

2. Select the appropriate icon to disarm the alarm, mute the alarm, pause the alarm, or reset the alarm.

NOTE: Select to reset all triggered alarms.

LOGGING OUT

To log out from Operation Mode:

1. Press esc. The Main Menu appears on the LCD display.
2. Select LOG OFF. The following appears on the LCD display.

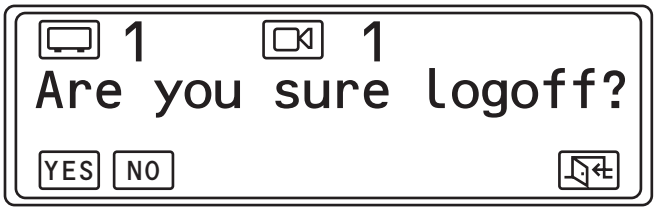

Figure 75. Verify Logoff

3. Select YES.

NOTE: You can also select monitor 0 to log off from the Main Menu.

DIAGNOSTICS MODE

This mode allows you to test the LCD display, the keys, and the DIP switches. To activate this mode, set DIP Switch 1 ON. The Diagnostic Mode Menu appears on the LCD display.

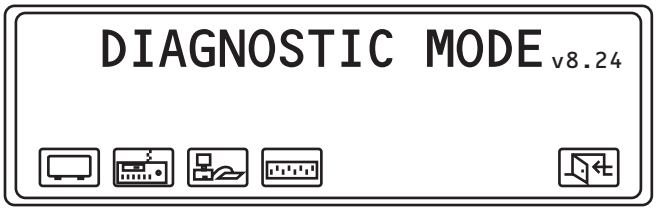

Figure 76. Diagnostic Mode Menu

NOTE: Do not select . The serial port test is for factory use only.

TESTING THE DISPLAY

Select from the Diagnostic Mode Menu. The LCD Test Menu appears.

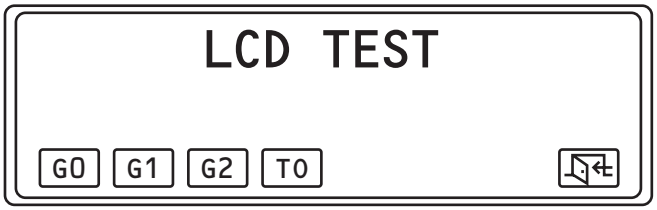

Figure 77. LCD Test Menu

1. Select G0 to test Graphic Page 0.
2. Select G1 to test Graphic Page 1.
3. Select G2 to test Graphic Page 2.
4. Select T0 to test Text Page 0.
5. Select .

TESTING THE KEYS

1. Select from the Diagnostic Mode Menu. The Keyboard Test Display appears.

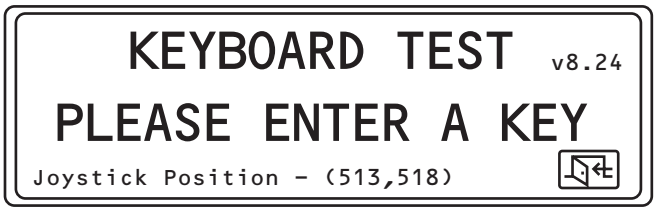

Figure 78. Keyboard Test Display

2. Press each key and make sure the display shows the correct key.

3. Select .

NOTE: When testing the keyboard, pressing the control keys (F1-F24) causes their assigned functions to be displayed.

TESTING THE DIP SWITCH

1. Select from the Diagnostic Mode Menu. The DIP Switch Test Display appears.

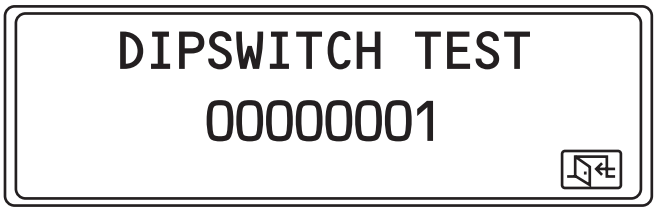

Figure 79. DIP Switch Test Display

2. Beginning with switch 2, set each switch ON while looking at the display.

NOTE: When switched ON, functioning switches will change the corresponding displayed 0 to a 1. For example, when switch 2 is ON, the display should read 00000011.

Specifications

ELECTRICAL

Input Voltage	12 VDC from 120 or 230 VAC, 50/60 Hz (+10%) power pack
Power Consumption	400 MA
Communications	RS-422, full-duplex
Operating Distance (For direct control operation)	Up to 3,900 ft (1.2 km) on 24-gauge wire (0.5 mm)
Connectors	Two 8-pin RJ-45 connectors (female) Both RS-422 serial ports
	One 4-pin RJ-45 connector (female) RS-232 serial port
	Two 6-pin RJ-45 connectors (female) One PC bus port for future expansion One relay port

MECHANICAL

Joystick	Proportional
Display	Four-line backlit LCD for programming and control
LCD Menu Display	Six multipurpose function keys for LCD menu selection
Numerical Input	Ten-key numeric keypad with two additional keys for camera and monitor selection
Control Keys	Twenty-four user-definable control keys
Function Controls	Six keys for function controls
Lens Control	Three keys for zoom, iris and focus control

GENERAL

Operating Temperature	32˚ to 120˚F (0˚ to 49˚C)
Dimensions	
CM9760-KBD	3.30" H x 15.53" W x 7.80" D (8.38 x 39.45 x 19.81 cm)
CM9760-KBR	7.00" H x 19.00" W x 1.75" D (17.78 x 48.26 x 4.45 cm)
Weight	
CM9760-KBD	4.6 lb (2.09 kg)
CM9760-KBR	6.4 lb (5.00 kg)

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years on FT/FR8000 Series fiber optic products.
- Three years on Genex® Series products (multiplexers, server, and keyboard).
- Three years on Camclosure® and fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.
- Two years on standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.
- Two years on Spectra®, Esprit®, ExSite™, and PS20 scanners, including when used in continuous motion applications.
- Two years on Esprit® and WW5700 Series window wiper (excluding wiper blades).
- Two years (except lamp and color wheel) on Digital Light Processing (DLP™) displays. The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
- Eighteen months on DX Series digital video recorders, NVR300 Series network video recorders, and Endura™ Series distributed network-based video products.
- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.
- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, preset scan, tour and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to Pelco, Clovis, California. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, Sales Order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

In order to expedite parts returned to the factory for repair or credit, please call the factory at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair).

All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid. Ship to the appropriate address below.

If you are located within the continental U.S., Alaska, Hawaii or Puerto Rico, send goods to:

Service Department
Pelco
3500 Pelco Way
Clovis, CA 93612-5699

If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico and are instructed to return goods to the USA, you may do one of the following:

If the goods are to be sent by a COURIER SERVICE, send the goods to:

Pelco
3500 Pelco Way
Clovis, CA 93612-5699 USA

If the goods are to be sent by a FREIGHT FORWARDER, send the goods to:

Pelco c/o Expeditors
473 Eccles Avenue
South San Francisco, CA 94080 USA
Phone: 650-737-1700
Fax: 650-737-0933

This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

REVISION HISTORY

Manual #	Date	Comments
C540M	6/97	Original version.
	3/98	Included KBR and expanded direct control instructions. Changed manual pagination. Added Section 1.2, Certifications.
	6/98	Added Section 1.2, Certifications.
C540M-A	8/99	Updated manual to correspond to version 4.0 of KBD software.
C540M-B	1/03	Revised Section 3.2.5, Calibrating the Joystick, per ECO 02-8581 and ECO 02-8394.
C540M-C	10/05	Manual completely revised and updated. Added Automatic Joystick Calibration. Added DVR control information.

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